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			MATZEK, MATTHEW D	
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Application No. Applicant(s) 10/718,007 JAFFEE ET AL. Office Action Summary Examiner Art Unit MATTHEW D. MATZEK 1794 -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --Period for Reply A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS. WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION. Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication. If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b). Status 1) Responsive to communication(s) filed on 19 November 2007. 2a) This action is FINAL. 2b) This action is non-final. 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under Ex parte Quayle, 1935 C.D. 11, 453 O.G. 213. Disposition of Claims 4) Claim(s) 51-64.71-84.91-94 and 99 is/are pending in the application. 4a) Of the above claim(s) is/are withdrawn from consideration. 5) Claim(s) _____ is/are allowed. 6) Claim(s) 51-64, 71-84, 91-94 and 99 is/are rejected. 7) Claim(s) _____ is/are objected to. 8) Claim(s) _____ are subject to restriction and/or election requirement. Application Papers 9) The specification is objected to by the Examiner. 10) The drawing(s) filed on is/are; a) accepted or b) objected to by the Examiner. Applicant may not request that any objection to the drawing(s) be held in abevance. See 37 CFR 1.85(a). Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d). 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152. Priority under 35 U.S.C. § 119 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f). a) All b) Some * c) None of: Certified copies of the priority documents have been received. 2. Certified copies of the priority documents have been received in Application No. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)). * See the attached detailed Office action for a list of the certified copies not received. Attachment(s) 1) Notice of References Cited (PTO-892) 4) Interview Summary (PTO-413) Paper No(s)/Mail Date.

Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _

5) Notice of Informal Patent Application

6) Other:

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Response to Amendment

The amendment dated 11/19/2007 has been fully considered and entered into the Record.
The amended claims contain no new matter. The amendment of claim 51 allows for the
withdrawal of 112 2nd paragraph rejection of claims 51-64 and 71-81. Claims 51-64, 71-84, 9194 and 99 remain active. The provisional obvious double patenting rejection made over
application 10/717.802 has been withdrawn due to its abandonment.

2. The declaration under 37 CFR 1.132 filed 11/19/2007 is insufficient to overcome the rejection of claims 51-64, 71-84, 91-94 and 99 based upon Jaffee et al. in view of Arkens et al. and Chenoweth et al. as set forth in the last Office action because: the declaration fails to clearly demonstrate that all embodiments of Jaffee et al. (US 5,772,846) fail to pass the now claimed Flammability test or possess the claimed Taber stiffness. The disclosure of Jaffee et al. must be considered in its entirety and not limited to just its examples. As stated in the abstract of Jaffee the mat preferably contains a major portion of glass fibers a minor portion of polyester fibers bound together with binder to produce a wide range of fiber reinforced composites and laminates. This is at least an invention that is very similar to that which is instantly claimed and Applicant needs to clearly demonstrate with structural limitations and quantifiable properties that that which is instantly claimed is not an obvious variant of Jaffee et al. (US 5,772,846). At this point in prosecution, Applicant has failed to persuade Examiner that this is the case.

Claim Rejections - 35 USC § 112

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

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3. Claims 82-84, 91-94 and 99 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The claim limitation of "...comprising a blend of fibers suitable for use as the scored and folded vertical webs spanning between an exposed mat and a backer mat in a compressible ceiling tile as described in published U.S. Patent Application No. 20020020142 filed April 23, 2001..." is improper. Claims may not incorporate or incorporate by reference another publication, but instead should clearly spell out the intended structure, composition, etc. of the invention. For purposes of examination the aforementioned claim limitation has been interpreted as an intended use limitation as it fails to provide any quantifiable guidance as to how the claimed article differs from other fibrous nonwoven mats in the same field of endeavor.

Claim Rejections - 35 USC § 103

- 4. Claims 51-64, 71-84, 91-94 and 99 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jaffee (US 5,772,846) in view of Arkens et al. (US 5,661,213) and further evidenced by Chenoweth et al. (US 4,888,235) as set forth in the Office Action dated 9/14/2007.
 - a. Jaffee discloses a nonwoven glass fiber mat comprising a major portion of glass fibers and a minor portion of polymeric fibers with crosslinkable binder (abstract). The mat may be any weight but its preferred weight is from about 1.8 to about 2.2 pounds per 100 square feet (col. 3, lines 6-18). Examiner takes the position that about 2.3 pounds per 100 square feet is provided for by a teaching of about 2.2 pounds per 100 square feet because it is only 0.1 pounds per 100 square feet less than the claimed value and the claimed value is only measured to the nearest 0.1 pound per 100 square feet. The applied

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invention can also be pleated or thermoformed to produce a variety of composites and laminates (abstract) and as such is suitable for use as a scored and folded vertical web as now claimed. Jaffee's nonwoven mat comprises glass fibers with diameters of between about 9 and 20 microns and lengths of around one inch (col. 3, lines 34-61). The nonwoven mat further comprises polyester fibers of 1.5 denier with lengths as low as 0.25 inches (col. 3, lines 54-61) and acrylic or modified urea formaldehyde binder (Example 1). The binder may be present in the nonwoven mat at up to 35 weight percent of said mat (abstract).

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b. Example 1 provides for a mat thickness of 36 mils. Examiner interprets a thickness of 36 mils to be "about" 38 or 39 mils. Therefore, Jaffee et al. provides for the new thickness claim limitation of claim 1. A difference of 10 percent or less between the claimed and applied values would certainly provide for the claimed thickness limitations as their values are not rigid, but instead are "about" a given value. Applicant's Taber stiffness is also provided for in the applied reference in the same manner. Example 2 provides for a stiffness of 45. Alan Jaffee, who is also an inventor in the applied patent, has attested that while not explicitly stated the applied reference's stiffness values are in fact Taber Stiffness values. A difference of 10 percent between the claimed and applied values would certainly provide for the claimed stiffness limitation as the value is not rigid, but instead is "about" a given value. Jaffee et al. fail to teach the use of the claimed binder composition and the specific amounts of glass and polyester fibers.

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c. While the mat of Jaffee provides the claimed fibers, the reference fails to use a binder that is at least partially cured and before drying and curing comprises a homopolymer or a copolymer of <u>polyacrylic acid</u> and <u>a polyol.</u>

d. Arkens et al. relates to a formaldehyde-free curable aqueous composition containing a polyacid, a polyol and a phosphorus-containing accelerator. The composition may be used as a binder for heat resistant nonwovens such as nonwovens composed of fiberglass. (Abstract) Arkens et al. teaches nonwovens that contain heatresistant fibers such as for example, aramid fibers, certain polyester fibers, glass fibers, among others. By "heat-resistant fibers" is meant (in Arkens et al.), fibers which are substantially unaffected by exposure to temperatures above 125°C. (Refer to Col. 8, lines 23-31) The reference teaches that the polyacid may be a compound with a molecular weight less than about 1000 bearing at least two carboxylic acid groups and teaches that it may be a polymeric acid that is preferably an addition polymer formed from at least one ethylenically unsaturated monomer (such as methacrylic acid, acrylic acid, among others). (Refer to Col. 3, lines 45 through Col. 4, lines 1-5) The reference further teaches that the polyol may be triethanolamine (Col. 6, lines 1-6) The formaldehyde-free curable aqueous composition may also contain emulsifiers, pigments, fillers, colorants, wetting agents (equated to hydrophilic material), among other components. (Refer to col. 6, lines 52-57) The reference teaches a nonwoven substrate made from a fiberglass fiber at 1.25 inches in length with a binder add-on of 28%. (Example 3) at a basis weight of 1.75 pounds per 100 sq. feet.

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e. Since both references are directed to glass fiber nonwoven mats comprising heat-resistant fibers (aramid, polyester, glass fibers, etc.), the purpose disclosed by Arkens et al. would have been recognized in the pertinent art of Jaffee.

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- f. It would have been obvious at the time the invention was made to a person having ordinary skill in the art to modify the mats of Jaffee and provide them with the binder composition of Arkens et al. with the motivation of producing heat-resistant nonwovens without formaldehyde as disclosed by Arkens et al. (col. 1, lines 11-55). Furthermore, it is known that acrylic resins provide nonwoven mats with increased stiffness (col. 1, lines 38-53).
- g. Although the prior art of Jaffee in combination with Arkens et al. does not explicitly teach the claimed ratio of wet tensile strength to dry tensile strength it is reasonable to presume that this property is inherent to a mat from the combination of Jaffee and Arkens. Support for said presumption is found in the use of like materials (i.e. nonwoven mat that includes glass fibers and polyester fibers, with a binder that prior to curing includes a polyacid and a polyol similar to the one claimed herein). The burden is upon Applicant to prove otherwise. *In re Fitzgerald* 205 USPQ 594. In addition, the presently claimed property of wet tensile strength/dry tensile strength would obviously have been present one the product form the combination of Jaffee and Arkens is provided. Reliance upon inherency is not improper even though rejection is based on Section 103 instead of Section 102. *In re Skoner*, et al. (CCPA) 186 USPQ 80.
- With regards to the claimed property of passing the NFPA Method #701
 Flammability Test, it is the Examiner's position that such property will also be inherent

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to the structure from the combination of Jaffee and Arkens et al. for the same reasons stated in the paragraph above. Applicant's ranges for the concentration of polyester fibers encompass typical values that are found in the prior art as evidenced by Chenoweth et al. (Refer to Abstract and Table I). Since each element is recognized as a result effective variable in this field of endeavor and it has been held that discovering optimum values would have required only routine experimentation.

- i. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have made the combined article of Jaffee/Arkens et al./Chenoweth et al. with the instantly claimed basis weights, binder percentage and fiber composition, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. In re Aller, 105 USPQ 233.
- j. The limitation of "a binder that is at least partially cured and consists essentially of, before drying and curing, a homopolymer or a copolymer of polyacrylic acid and a polyol" is met by the composition of Arkens et al. and for the purposes of searching for and applying prior art under 35 U.S.C. 102 and 103, absent a clear indication in the specification or claims of what the basic and novel characteristics actually are, "consisting essentially of" will be construed as equivalent to "comprising." See, e.g., *PPG*, 156 F.3d at 1355, 48 USPO2d at 1355, MPEP 2111.03.

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Response to Arguments

 Applicant's arguments filed 11/19/2007 have been fully considered but are not persuasive.

- Applicant argues that the incorporation of the limitation "as described in published U.S. 6. Patent Application No. 20020020142 filed April 23, 2001..." make the claims more definite and merely defines additional characteristics inherent in the claimed fibrous nonwoven mats by describing a specific component in a specific compressible ceiling tile that the claimed fibrous nonwoven mats are capable of fulfilling. Examiner agrees that the incorporation of certain test standards and methods are acceptable for incorporation into the body of a claim. The incorporation of a permanent document into the body of a claim is different and leads to the claim being indefinite because said document, a published patent application in this instance, may not be universally understood and does not clearly establish what properties, and their quantification, are required to meet said limitation. The incorporation of essential material in the specification by reference to an unpublished U.S. application, foreign application or patent, or to a pre-grant publication is improper. Applicant is required to amend the disclosure to include the material incorporated by reference, if the material is relied upon to overcome any objection, rejection, or other requirement imposed by the Office. The amendment must be accompanied by a statement executed by the applicant, or a practitioner representing the applicant, stating that the material being inserted is the material previously incorporated by reference and that the amendment contains no new matter. 37 CFR 1.57(f).
- Applicant argues that none of the references cited teach or reasonably suggest such a combination of materials, or that when said combination were formed that a nonwoven fibrous

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mat form would possess the characteristics or properties desired. The motivation to combine the Jaffee, Arkens et al. and Chenoweth et al. references is set forth in the secondary and tertiary references. A holding of obviousness can be based on a showing that there was "an apparent reason to combine the known elements in the fashion claimed." KSR, 127 S. Ct. at 1740-41, 82 USPQ2d at 1396. In other words, "there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness." Jd., 127 S. Ct. at 1741, 82 USPQ2d at 1396 (quoting In re Kahn, 441 F.3d 977, 987, 78 USPQ2d 1329, 1336 (Fed. Cir. 2006)). However, this reasoning is not limited to the problem the patentee was trying to solve; "any need or problem known in the field of endeavor at the time of invention and addressed by the patent can provide a reason for combining the elements in the manner claimed," KSR, 127 S. Ct. at 1742, 82 USPQ2d at 1397 (emphasis added). As to the desired properties, they are either provided for in Jaffee, inherent to the combination of the prior art references or would have obviously been present as set forth supra.

- 8. Applicant argues that since none of the mats of Jaffee contained any formaldehyde, there would be no motivation for the skilled artisan to look to Arkens et al. to improve the mats of Jaffee and there is nothing in Arkens et al. to suggest that its binders are superior to those of Jaffee. Jaffee does use a modified urea-formaldehyde binder in Example 1 and it is well known in the art that it is desirable to replace formaldehyde binders due to their inherent toxicity.
- 9. Applicant argues that Arkens et al. actually teaches away from a stiff mat. Examiner would like to point out that the claimed stiffness is provided for in Jaffee and Jaffee actually teaches that acrylic binders, upon which Arkens et al. have been relied to teach, provide improved strength and handling (col. 1, lines 38-48).

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10. Applicant argues the number of trials and time needed to arrive at the claimed invention is evidence to establish a prima facie case of non-obviousness. A case of obviousness is based upon the factual inquiries set forth in *Graham* v. *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

- Determining the scope and contents of the prior art.
- Ascertaining the differences between the prior art and the claims at issue.
- 3. Resolving the level of ordinary skill in the pertinent art.
- Considering objective evidence present in the application indicating obviousness or nonobviousness.

Applicant has failed to demonstrate that the *prima facie* case of obviousness set forth above crafted by the above factual inquiries is not valid. One hundred trials within 54 days to create an invention is not deemed excessive by Examiner and does not contribute to a *prima facie* case of non-obviousness.

11. Applicant argues that the teachings of Jaffee actually leads one away from the claimed invention because Jaffee teaches that the prior art mat are too stiff. Example 2 provides for a stiffness of 45, which Examiner interprets to be about 50. Furthermore, Jaffee teaches that the board of Example 2 is stiffer than liked, but does not say that it cannot perform in the desired function. It has been shown that all disclosures in a reference must be evaluated for what they fairly teach one of ordinary skill in the art. Thus, in *In re Smith*, 32 CCPA 959, 148 F.2d 351, 65 USPQ 167; in *In re Nehrenberg*, 47 CCPA 1159, 280 F.2d 161, 126 USPQ 383; and in *In re Watanabe*, 50 CCPA 1175, 315 F.2d 924, 137 USPQ 350, show that rejections have been affirmed based upon art which rendered the claimed invention obvious to those of ordinary skill in the art despite the fact that the art teachings relied upon were phrased in terms of non-

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preferred embodiments or as being unsatisfactory for the intended purpose, see *In re Hans Theodor Boe*, 53 CCPA 1079, 355 F.2d 961; 148 USPQ 507.

- 12. Applicant argues that Jaffee's basis weight teachings lead away from the claimed invention's basis weights. Examiner maintains that about 2.2 pounds per 100 square feet provides for about 2.3 pounds per 100 square feet since both teachings are open-ended with the use of "about". With regards to the higher basis weights of claims 82 and 84 it would have been obvious to have optimized the basis weight of the nonwoven fibrous mat of Jaffee to provide a specific strength to the article based upon its end use. Applicant continues by stating that since Jaffee teaches greater flexibility is desirable, less stiffness, is desired. Examiner disagrees with Applicant's assessment of the desired properties of Jaffee. Jaffee teaches that the board of Example 2 is stiffer than liked, but does not say that this level of stiffness, or greater, precludes the board from performing in the desired function.
- 13. Applicant argues that nothing in Jaffee or Arkens et al. teach the desirability of a nonwoven mat having a Taber stiffness of at least 50 and a mat thickness in the range of about 38 to about 48 mils. The instant claims recite a "Taber stiffness of at least *about* 50..." (emphasis added). Examiner interprets the claimed thickness and Taber stiffness as obvious in view of the applied reference.
- 14. Applicant argues that it is not reasonable to presume that the claimed stiffness and flammability would be inherent to the Jaffee or Arkens et al. mats. Applicant has failed to evidentially support such an assertion. As co-owners and having a common inventor in both applications, Applicant is invited to clearly demonstrate that all of the embodiments of Jaffee are incapable of possessing the claimed stiffness and flammability. Examiner has not relied upon

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Arkens et al. to provide the claimed stiffness and has relied upon the combination of Jaffee and Arkens et al. to provide the claimed flammability. Reliance upon inherency is not improper even though rejection is based on Section 103 instead of Section 102. *In re Skoner, et al.* (CCPA) 186 USPO 80.

- 15. Applicant argues that there are dozens of binders available for use in bonding glass and polymer fibers, but nothing to suggest that the binder of Arkens et al. would produce the properties critical to performing well in the collapsible dividers in a compressible ceiling tile and as such there is no reasonable expectation of success. Examiner has relied upon Arkens et al. to provide a formaldehyde-free binder. The compositional and structural limitations are provided for in the combination of three applied references. Since the applied references in combination provide for the structural and compositional limitations instantly claimed it is reasonable to assume that combined invention would perform in the same manner as that of Applicant.
- 16. Applicant argues that Examiner's interpretation of the limitation "consisting essentially of" is contrary to the long since established practice of interpreting the scope of said limitation. Applicant has failed to demonstrate how the claimed characteristics are novel in light of the applied art and as such "consisting essentially of" will continue to be construed as equivalent to "comprising" MPEP 2111.03.
- 17. Applicant argues that failing to give weight to properties recited in article claims is a reversible error, particularly when evidence to the contrary has been presented, it is improper to ignore property limitations in the claims when the composition of the item having the properties is different than reasonably taught by the reference and especially when the Applicant is claiming the properties are critical to a particular different application and/or are unexpected.

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First, Applicant has failed to demonstrate the claimed properties are unexpected. Second, the claimed Taber stiffness is provided for Jaffee and fire resistance is also a property of Jaffee. The claimed ability for use in a compressible ceiling tile is necessarily present because all of the structural and compositional are provided for and in combination would perform in the claimed manner.

- 18. Applicant argues that Examiner has failed to clearly set forth how Jaffee is to be modified by Arkens et al. and Chenoweth et al. Examiner has clearly set forth how the combination of the aforementioned references arrives at the claimed invention. In summary, Examiner has replaced the binder of Jaffee with that of Arkens et al. and looked to Chenoweth et al. for quantifiable guidance as to how to make a functional nonwoven mat comprising a majority portion of glass fibers and a minority portion of polyester fibers.
- 19. Applicant argues that he has provided two declarations to demonstrate that the claimed properties are not inherent to Jaffee, including Taber stiffness. As addressed *supra*, Jaffee actually does provide for the claimed Taber stiffness and has set forth reasoning behind why he believes that the remaining claimed properties are either provided for or would have been obvious. Applicant has not provided evidence that the instant application is in possession of unexpected results.
- 20. Applicant argues that an unexpected result of the instant application is that it does not need expensive glass microfibers to perform in the desired manner and references three US patents that use said glass microfibers to make articles for the same desired purpose (i.e. for use in ceiling tiles of the type disclosed in US 2002020142). Applicant has failed to demonstrate why that is unexpected. Certainly, smaller fiber constructs would be easier to fold, but nothing

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precludes the use of larger microfibers for use in compressible ceiling tiles. As stated in the discussion of the 112 rejection in paragraph 6 of this Office Action it is improper to incorporate a published application into the body of a claim.

- 21. Applicant argues that Chenoweth et al. teach away from the claimed invention and as such should not be relied upon because it is dealing with different types of fibers and different types of products aimed at different applications than those of Applicant. Examiner has relied upon Chenoweth et al. to teach ranges that can be used for glass and polymer fibers and their incorporation into nonwoven mats, which is common to the instantly claimed invention and Jaffee. Applicant states that the fibers of Chenoweth et al. are different those of Applicant. Applicant has claimed polyester and glass microfibers, both of which are provided for in Chenoweth et al. Applicant is encouraged to demonstrate how the instantly claimed fibers are different than those of Jaffee, upon which the fibers' structure has been provided. Applicant is reminded that although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).
- 22. Applicant argues that the range for the concentration of polyester fibers is not broad.
 Examiner was merely attempting to demonstrate that the claimed ranges are not novel and are clearly set forth in the prior art. Examiner has relied upon Jaffee for the specific type and structure of fibers to be used in the invention. Chenoweth et al. provide for the specific ranges of each fiber in the nonwoven mat to be used.
- 23. Applicant argues that Examiner has relied upon improper hindsight to reject the instant claims. In response to applicant's argument that the examiner's conclusion of obviousness is

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based upon improper hindsight reasoning, it must be recognized that any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the applicant's disclosure, such a reconstruction is proper. See *In re McLaughlin*, 443 F.2d 1392, 170 USPO 209 (CCPA 1971).

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to MATTHEW D. MATZEK whose telephone number is (571)272-2423. The examiner can normally be reached on M-F, 9-5:30.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Terrel Morris can be reached on 571.272.1478. The fax phone number for the

organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent

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/Matthew D Matzek/

Examiner, Art Unit 1794

/Norca L. Torres-Velazquez/ Primary Examiner, Art Unit 1794